

1809 #6

*Stimulating and Nutritious effects
of Light.*

Thos. Harris

he is about to embark.

By light I mean that subtle fluid emitted from luminous bodies, and which is possessed of very peculiar and important properties.

Whether contemplated in a physical or chymical point of view, light must be pronounced one of the choicest gifts of heaven. — It is not only one of the principle stimuli of life, but as the medium of vision, affords us innumerable captivous perceptions.

Few subjects merit an attention more than this circumambient ethereal fluid, by means of which the beauty and glory of creation are laid open to our view.

Even the illiterate and unobserving

Subtle
 are looking
 my peculiar
 implanter
 pointed
 nced on
 v. — It
 stems
 in flow
 taneous
 am after
 number
 which
 ation
 in

savage acknowledges the divine influence of light, by reverencing and offering oblations to some one or other of the heavenly luminaries.

It is remarkable that man was not brought into existence till the luminaries were formed. - Adam awoke surrounded by light, and soon became sensible of this congenial stimulus to his nature.

The stimulating properties of light have long since, and are now generally admitted; but for its application to the practice of medicine the world is indebted to the illustrious Professor of the institutes and practice of medicine.

For a knowledge of its nutritive qualities, or at least for its

The he
 that me
 are till
 and. - it
 and so
 mial the
 copertu
 are no
 its Aff
 elicine
 lectious
 d prais
 of its
 for it

elapification among the articles of
nutrition, the honor is due the in-
genious Doctor Barton.

Notwithstanding the
very essential use of light, in impar-
ting vigour and spiritfulness to the
plant after vegetation has commen-
ced; yet we find that if the seed
be barely exposed to the powerful
stimulus of the solar rays, germina-
tion is prevented.

Were this luminous sub-
stance intercepted, vegetables would
sicken and exhibit a lifeless and pa-
lid appearance.

The beautiful, variegated, &c.
of most vegetables depend on the presence
of this fluid. - The fungi it is true,
are an exception. - Their colour is

The ...
...ing the
... impo
... to the
commen
the seed
everful
glorious
... and
avoid
and p
galed the
the first
it is true
colour

growth are independent of light, and
hence the Gardener bleaches his celery
and other plants which partake of
its nature.

Agreeably to Chaptal, vegetables
are not only indebted to light for
their colour, but likewise for their
taste, smell, combustibility, maturity,
and resinous principle: Glucosama-
matic substances, resins, volatile oils,
and those colouring matters, of so much
value for their liveliness and body,
are peculiar to southern climates,
where light is more pure, constant
and intense.

The medicinal qualities
of plants that grow in the light are
much more active, than those which
grow in the shade. — Hence southern

light, in
the colony
in lake of
l, regular
light for
on thin
maturing
lence are
the side
of some
badly
metals,
constant
localities
light on
a whole
author

countries yield the most active and valuable medicines.

It is a fact well known to the inhabitants of the western part of Pennsylvania, that the juice which the Palm tree affords during the day, yields much more sugar, than that which ^{flows} thro' the night.

Vegetables discover a partiality for light by the direction of their limbs and flowers. — In cellars and hot-houses where light is admitted in one direction only, we observe them inclining towards the place of its introduction, as if to embrace their beneficent friend, and hence is manifested the congeniality of this fluid to plants of every description, and its necessity to their prosperity and

love and

earn to

part of

will be

and that

than to

never is

direction

to cells

voluntarily

become the

of its own

skin be

as common

his fluid

and

in

growth. — These too, partially enclosed, are always seen pushing their limbs into the open air, and extending their growth most rapidly wherever the light is poured in upon them in the greatest profusion.

Chepval ascribes more to the influence of light than can justly be attributed to it. — He says "A very astonishing property of light on the vegetable kingdom is, they emit vital air". — This phenomenon professor Woodhouse has illustrated ^{both} ingeniously and satisfactorily by means of a series of experiments. — From these he has proved that oxygen gas is not eliminated from the plant, but is dependent on a decomposition of

covered

the end

therefore

but it

on the

corner

can be

"I want

on the

is also

before

remains

of a

house

not

but a

one of

Carbonic acid, present effected by
the stimulus of light. — The plant
indeed appears to devour, and to be
nourished by the carbonic, whilst the
nitric air is disengaged. — For he
could in no instance procure
the massive quantity of oxygen
gas, unless there were carbonic
acid present in the water in
which the vegetables were placed.

Light has a very peculiar
effect on another class of anima-
ted beings. — We observe those ani-
mals which are secluded from
light, have a pallid whitish colour
such as grubs, worms, &c which turn
in the sun or in trees. — The
loss of colour is also observable in

at his
the plant
to be
in the
on the
can
after
own
in
to
riaces
with
rows.
a am
own
corn
at the
of the
in

the arctic animals during the long
nights in the countries near the poles.

The nocturnal birds and fly-
ing insects of the night are distin-
guishable from those of the day by
their want of brilliancy of colour.

Doctor Güttauer has ob-
served, that animals which conceal
themselves for the greater part of
the year, in subterraneous dwellings
lose their colour and become white.
And that mice kept in a cage, in a
dark room, have produced white
offspring. - The difference is equally
manifest between those animals
of the north and of the south.
Hence I would infer that the dif-
ference of colour in the human
species is entirely dependent on the

of the
The
and
ob
clear
of
how
the
heart
of
diver
the
in a
active
is
nerv
the
the
some
on

climate in which they live, and not to any specific difference in the original stamens. - Negro children tho considerably white at birth, become black when exposed to the solar rays, and I am inclined to believe ~~that~~ ^{they} would continue so even if impracticable for them to live without being exposed to the light.

There is a story narrated by fishermen, on which I believe in many but implicit reliance, that fish are much fatter during the full moon, than at any other period. - No man takes, however there is observed in the human species. - The health, ruddy complexion and athletic constitution

in the
herb
to the
dried
them
good
recalled
Luna
and
in down
new
lakes
the
ready
is still

of those persons who are daily ex-
posed to the suns influence, give
strong and irrefutable evidence
of the alimentary and invigora-
ting properties ^{of light}. - Mr Skinner the
German pedestrian traveller in-
formed Doctor Rush that he, was
several months in Lapland lat.
69. during most of which time
the sun was not absent. - and
that he enjoyed an unusual
degree of health and spirits which
he justly attributed to the invigo-
rating influence of the suns life

Agreeably to one of the laws
of sensation, when two stimulations
of unequal force are applied to
system at the same time the stron-

ity ex
cure, p
edence
reign
est V.
eller in
S. L. S.
land to
I am
- Ave
esual
nals to
unig
econd
Can
unite
act to
tion

Indominate. When - under
light is no feeble stimulus,
it is one of the principle stimuli
which counteracts and prevents
very powerful stimulus of
more exhalations from affecting
the system during the day. -
hence two kinds of the disease
which attack the human body
are found to commence in the
night, whilst the system suffers
this invasion.

Patients frequently
nights in wakefulness in fevers.
The system is below the sleeping
and ~~and~~ ~~fall~~, but sinks into a repressed
sleep at the recurrence of the
new light, the system being then

I have
 heard
 the fine
 Lawrence
 less of
 appear
 reason
 closer
 in fact
 in an
 in sub
 really
 lived
 during
 return
 the m
 s that

raised to that necessary point at
sleep takes place. - Hence the need
of giving a greater quantity of the
mixture in those diseases in which
stimulants are indicated, during
the night than in the day. -
Hence also the propriety of darkening
the rooms of patients whose
fevers are inflammatory.

I consider it as necessary
for the physician to regulate the
quantity of light admitted to
his patients, by the state of the
fever and nature of the complaint,
as the temperature and purity
of the air in his room.

Light acts, particularly on
organs of sight: when too intense

about 10
the number
city of
can when
acted, de
long--
of de
to who
reception
ulate to
matters
of the
comple
Paris
only on
nature

at general
 quality
 he man
 not exp
 sys. m
 y prin
 note to
 which
 subd
 camp
 it d
 effects
 latter
 in sta
 of frequ
 mens
 more

Next many in some measure modify the
where it exists, but most abundantly it can
produce them.

The effects of light did not
escape the observing eye of Lavoisier. He said
"organisation, sensation, spontaneous motion
"and all the operations of life only exist
"the surface of the earth, and in places
"exposed to the influence of light. -
"and it, nature itself would be lifeless and
"inanimate. - By means of light the
"benevolence of the Deity hath filled
"surface of the earth with organised
"sensation and intelligence".

The effects of light on
animal life are strongly demonstrated
its influence on the spirits. - Who
not experienced its exhilarating effects when
a clear sky and shining sun, or felt a display
of his spirits in proportion to the glow
of the circumambient atmosphere and
perceptions of this cheering cordial? We
be reserved for him alone who has been

I did not
 her. He
 by said
 in place
 light.
 develop
 light
 picked
 again
 light an
 strated
 . - Who
 effects
 felt a
 She gl
 here an
 ial? He
 has been

deprived of light, and confined in dark
ungeons to describe his deplorable
condition, and this subject justice.

Life says Doctor Rush "is
a more torpid state in those who have
lost their sight and hearing, than in
those who have not.

Since dreaming is as certain
to be the consequence of mechanical
superiority in the body, may we not
think that the frequent occurrence of dreams
in the morning is owing to the
loss of light?

Having now concluded my
observations on light, I wish each Pro-
fessor of this university to accept my
warmest acknowledgments for the
great opportunities of improvement
I have enjoyed in their respective
chairs; and my sincerest wishes for
their individual happiness.

Thos Harris
